REMARKS

Without acquiescing to the propriety of the rejections in the Office Action dated November 10, 2005, claim 1 has been amended and new claims 10-13 have been added. Reconsideration of the above-identified patent application and allowance of all claims are respectfully requested in view of the remarks below. Claims 1-13 are now pending.

Applicant gratefully acknowledges the time granted its undersigned representative on June 9, 2006 in which the Office Action and the prior art were discussed.

Claim Rejections Under 35 U.S.C. § 102 and § 103:

Claims 1-3 and 6-9 stand rejected under 35 U.S.C. § 102(b) as being anticipated by, or in the alternative obvious under § 103(a), over U.S. Patent No. 6,228,312 to Boyce.

Amended claim 1 of the present application recites a reinforcing tape system which includes a reinforcing tape having a ply of longitudinal aramid-, glass-, or carbon-based high-tenacity yarns bound together by weft yarns. The tape includes two thermal plastic films, each placed on a respective different side of the ply of high-tenacity yarns. The tape is flexible and wound around an outside surface of a structure to be reinforced. The tape conforms to a shape of the outside surface of the structure to be reinforced. The ply of yarns reinforces the structure, and remains flexible, in response to being wound around the structure. The ply of yarns includes a yarn layer, each of the films includes a film layer, and the films avoid penetrating the yarn layer.

Boyce discloses a liner for rehabilitating a pipe which is introduced into the pipe in a contracted form and expanded into contact with the wall of the pipe. The liner is heated to provide a partially molded effect and any structure for the liner is provided by the pipe (i.e., not by the liner itself). More specifically, the liner is held in position and is heated. The thermoplastic material becomes molten and penetrates into the fibers in the reinforcement material (alleged to be yarn in the Office Action). When cooled, the thermoplastic material becomes rigid in the areas it has penetrated between the fibers of the alleged yarn and thus inhibits the collapsing of the liner after the means for inflating it are removed. As depicted in FIG. 1A and 1B, for example, the liner in Boyce includes thermoplastics intermingled with reinforcing fibers. However, there is no disclosure of a ply of yarns which includes a yarn layer,

two thermoplastic films, each of which includes a film layer, and the films avoiding penetrating into the yarn layer. Instead, the thermoplastic and reinforcing fibers in Boyce are intermingled with each other. Further, there is no disclosure in Boyce of a flexible reinforcing tape being wound around, and conforming to a shape of, an outside surface of a structure to be reinforced, nor a ply of yarns reinforcing the structure, and remaining flexible, in response to tape being wound around it. Instead, Boyce discloses a liner which is expanded to reinforce an inner side of a pipe, is partially molded, becomes rigid and receives support from a pipe in which it is received, but the liner in Boyce is not flexible, does not reinforce, and is not wound around a structure to be reinforced. Accordingly, because all the features (e.g., a yarn layer, a plurality of thermoplastic films, each of which has a film layer, the films avoiding penetrating into the yarn layer, a reinforcing tape being wound around an outside surface of a structure to be reinforced, the tape conforming to a shape of the outside surface and reinforcing the structure while remaining flexible in response to the tape being wound around the structure) of claim 1 of the present application are not identically disclosed by Boyce, this claim cannot be anticipated thereby.

Further, there would be no reason for one skilled in the art to arrive at the claims of the present application based on the disclosure in Boyce. The reinforcing tapes disclosed in the present application are utilized by winding them around various structures to reinforce them which is directly opposed to the use in Boyce of inserting a liner inside a structure and inflating it to provide leak protection to the internal surface thereof. Further, there is no reinforcing done by the tape in Boyce as the pipe itself provides any needed reinforcement. Accordingly, there would be no reason for one skilled in the art to attempt to utilize the liner of Boyce in the manner of the tape in the present application since the objectives of the liner and tape are directly opposed (i.e., lining an internal surface by internal pressure versus reinforcing an exterior surface by winding a tape around the exterior surface). Thus, there would be no reason to utilize the liner in Boyce on an outer surface of a structure to be reinforced as recited in claim 1 of the present application.

Although a cover is referenced in Boyce as alleged in the Office Action, there would be no reason to wind the liner in Boyce around a structure due to the mere disclosure of the possibility of using the liner as such a cover. Further, even if it was obvious to use the liner in Boyce as alleged, there is no disclosure of thermoplastic films of a reinforcing tape avoiding

penetrating into a yarn layer thereof nor such reinforcing tape remaining flexible and reinforcing the structure in response to such tape being wound around the structure. Instead, the liner in Boyce is partially molded against the interior surface of the pipe in which it is received and thus cannot remain flexible. Further, the Boyce liner has thermoplastic and reinforcing fibers which are intermingled with each other and thus the thermoplastic does not avoid penetrating the reinforcing fibers. Claim 1 therefore cannot be anticipated, nor made obvious, by Boyce. The dependent claims are believed not to be anticipated, nor made obvious, for the same reasons and for their own additional features.

Claim Rejections Under 35 U.S.C. § 103:

Claim 5 stands rejected under 35 U.S.C. § 103(a) as being obvious over Boyce in view of Lusk (U.S. Patent No. 4,578,293). This claim is believed to be allowable for the same reasons as those described above for its base independent claim and for its own additional features.

Claims 1 and 3 stand rejected under 35 U.S.C. § 103(a) as being obvious over Gilbert (U.S. Patent No. 4,781,958) in view of Bompard et al. (U.S. Patent No. 5,014,755).

Gilbert discloses a tape utilized to allow one to detect underground non-metallic objects such as plastic pipe. In particular, the tape is placed on the non-metallic body thereby allowing it to be detected by a metal detector. The tape includes a ductile metal foil layer enclosed in a sheath of thermoplastic coating. As depicted in FIG. 2, and described in columns 2 and 4, a reinforcing layer comprising a non-woven fabric of high density polyethylene may also be included between the foil layer and one of the thermoplastic layers. As noted in the Office Action, Gilbert does not mention a woven reinforcing material. Further, the tape does not have a tendency to curl up the edges or twist, and it lies flat as described in lines 57-60 of column 2.

Bompard discloses a composite textile structure which includes a textile layer having filaments impregnated and/or coated with thermoplastic material which allows laminates exhibiting improved mechanical properties to be produced as described in lines 50-55 of column 1. The thermoplastic material is secured to the different threads of the weave disclosed therein to increase rigidity of the article which includes the textile. The textile is especially designed for the manufacture of laminates as described in lines 55-60 of column 3.

As noted above, claim 1 recites, inter alia, a flexible tape which is wound around, and conforms to a shape of, a structure to be reinforced, along with a ply of yarns remaining flexible and reinforcing the structure in response to the tape being wound therearound. The tape disclosed in Gilbert is placed adjacent non-metallic structures to allow detection of such structures, but there is no disclosure of a tape being wound around a structure to reinforce the structure. Gilbert thus does not disclose a flexible tape which is wound around, and conforms to the shape of, a structure to be reinforced, nor yarns remaining flexible and configured to reinforce a structure which the tape is wound around. Further, Bompard discloses a textile suitable for being laminated which is designed to increase rigidity of an article. Bompard thus teaches away from the tape remaining flexible as recited in claim 1. Further, there would be no reason to combine these references.

The "Response to Arguments" section of the Office Action asserts that the winding of the tape in Gilbert around a roll discloses that the tape is flexible and may be wound around the outside surface of a structure to be reinforced. Applicant respectfully disagrees that there would be any reason to attempt to utilize the Gilbert tape to reinforce another structure. Instead, the tape disclosed therein is utilized to allow the detection of non-metallic bodies located adjacent such tape. The reinforcing material depicted in FIG. 2 and described in the specification is utilized to allow the tape to lie flat when utilized adjacent such non-metallic structures which is desired to locate remotely via a metal detector. There is no disclosure of the use of the tape to reinforce a structure. The wrapping of such tape around a roll does not teach the winding of the reinforcing tape of the present application around a structure to reinforce such structure while remaining flexible. Moreover, the combination of this reference with the rigid textile structure of Bompard would further teach away from the wrapping of any combination tape derived from these references, because the tape would be rigid in contrast to the tape recited in claim 1 of the present application which remains flexible. Accordingly, a combination of these references cannot result in the subject matter of claim 1 of the present invention since neither reference, nor their combination, discloses a reinforcing tape, which remains flexible, is wound around, and conforms to the shape of, a structure to be reinforced. Accordingly, claim 1 cannot be obvious over these references. The dependent claims are not believed to be obvious for the same reasons and for their own additional features.

Claims 2 and 6-7 stand rejected under 35 U.S.C. § 103(a) as being obvious over Gilbert in view of Bompard and further in view of Park (U.S. Patent No. 5,547,536). Also, claim 4 stands rejected under 35 U.S.C. § 103(a) as being obvious over Gilbert in view of Bompard and further in view of Osborn et al. (U.S. Patent No. 3,830,067). These claims are believed to be allowable for the same reasons as their base independent claims and for their own additional features. Also, as discussed with the Examiner relative to claim 4, the disclosure in Osborn of an irrigation system formed of two strips does not disclose a sheath formed of thermoplastic materials which receives a ply of longitudinal yarns.

New Claims:

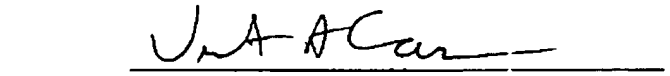
Claims 10-13 have been added. Support for these claims is found in the Specification and drawings. Thus no new matter has been added. These claims are believed to overcome the cited references for the reasons described above and for their own individual features.

CONCLUSION

It is believed that the application is in condition for allowance, and such action is respectfully requested.

If a telephone conference would be of assistance in advancing prosecution of the subject application, the Examiner is invited to telephone the undersigned attorney at the telephone number provided.

Respectfully submitted,



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